Message

From: Detlef Knappe [knappe@ncsu.edu]
Sent: 2/20/2018 3:27:23 PM
To: Hopkins, Zachary [zrhopkin@ncsu.edu]
CC: Strynar, Mark [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5a9910d5b38e471497bd875fd329a20a-Strynar, Mark]; McCord, James [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=McCord, James]; Lang, Johnsie [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b220365e540947f7a7c55cde0904f73e-Lang, Johns]
Subject: Re: First Report on the Occurrence and Bioaccumulation of Hexafluoropropylene Oxide Trimer Acid: An Emerging Concern

Thank you, Zack!
How much water would be needed to feed the mice? Use as is? Develop concentrate? We probably have 10 gallons, maybe 15.
Could we get access to a highly contaminated monitoring well and develop a concentrate? Or develop a concentrate from Marshwood Lake using a reverse osmosis unit?
Detlef

On Tue, Feb 20, 2018 at 10:06 AM, <zrhopkin@ncsu.edu> wrote:

Detlef,

So we detected the the trimer in well samples from the plant that Mark ran. We also checked the outfall sample taken last May. There is trimer present in that sample though.

Running 2014 and 2015 on the TOF now to look for the trimer there.

Mark would like to investigate this a little further before we come to any final conclusions.

On another note, Johnsie was wondering what the possibility of using some of the Huske dam from 2014 or 2015 which contain ~1500 ng/L GenX and 42000 and 60000 ng/L PFMOAA to feed mice? I told her she would have to talk to you about that.

On Feb 20, 2018, at 8:11 AM, Detlef Knappe <knappe@ncsu.edu> wrote:

> Zack,
> Can you look for the trimer acid in the surface water samples you collected around Chemours (see conversation below). Also, this one:
> http://www.chemspider.com/Chemical-Structure.93034.html?rid=6958f0c5-c6d3-41b5-a44d-4e15471a7f9a&page_num=0
> and Nafion BP1. Higher air emissions than BP2 according to Chemours model. Hopefully can do BPs 3 and 4 as well.
> Detlef
>
> ---------- Forwarded message ----------
> From: **Strynar, Mark** <Strynar.Mark@epa.gov>
> Date: Tue, Feb 20, 2018 at 7:32 AM
> Subject: RE: First Report on the Occurrence and Bioaccumulation of Hexafluoropropylene Oxide Trimer Acid: An Emerging Concern
> To: "Cahoon, Larry" <cahoon@uncw.edu>, "Detlef R. U. Knappe" <knappe@ncsu.edu>,

"Mead, Ralph N." <meadr@uncw.edu>

All,

I have looked for this compounds in the samples we have received in the Cape fear River all summer. I have yet to see a definitive response in any sample. However, it demands a more thorough look. My guess is it would be significantly less soluble than HFPO-DA and would likely be found more in sediment and or bio-accumulate in fish. Both have not yet been looked at by me or anyone else I am aware of.

According to my discussions with Dupont and Chemours chemists they are aware this compound is quite bio-accumulative and has toxicology. Thus they avoid the production. As it would be made to some degree by the process of dimerizing HFPO to the DA, some HFPO-TA is likely made. My understanding is they are able to capture the HFPO-TA and convert it to CAS 3330-14-1 (essentially the decarboxylated from of HFPO-TA) to be used as a solvent for Nafion synthesis on site. This tells me it is made on site but dealt with. My question would be to what degree and how well is it or has it been dealt with.

Mark

From: Cahoon, Larry [mailto:cahoon@uncw.edu]
Sent: Monday, February 19, 2018 11:16 AM
To: Detlef R. U. Knappe <knappe@ncsu.edu>; Strynar, Mark <Strynar.Mark@epa.gov>; Mead, Ralph N. <meadr@uncw.edu>
Subject: FW: First Report on the Occurrence and Bioaccumulation of Hexafluoropropylene Oxide Trimer Acid: An Emerging Concern

Hi guys, are we at all likely to see this stuff in the CFR?

LBC

From: Kathleen Gallagher [mailto:gallagherkm1@gmail.com]
Sent: Sunday, February 18, 2018 11:08 AM
To: Cahoon, Larry <cahoon@uncw.edu>
Subject: First Report on the Occurrence and Bioaccumulation of Hexafluoropropylene Oxide Trimer Acid: An Emerging Concern

https://pubs.acs.org/doi/abs/10.1021/acs.est.7b02259

FYI